REMARKS

In the May 17, 2000 Office Action, the Office rejected all pending claims 1-20. Applicant has cancelled claim 8 without disclaimer or prejudice, amended claims 1 and 5, and added new claim 21. After entry of the foregoing amendment, claims 1-7 and 9-21 (1 independent and 20 total claims) remain pending in the application and are believed to be in condition for allowance.

In addition, Applicant has amended Figure 3 in accordance with the Office's objection to designating the bottom screw to the face plate and the retainer of the flexible handle with reference character 318. Applicant submits that screw 318 and retainer 318 are not the same element as is clearly described and illustrated in the application. Retainer 318 has been re-numbered retainer 386. Support for the amendments may be found in the originally filed specification. Reconsideration is respectfully requested.

35 U.S.C. § 112 REJECTIONS

The Office rejected claims 5 and 8 under 35 U.S.C. § 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. Without consenting to the rejection, claim 5 has been amended in the spirit of speedy prosecution. In addition, again without consenting to the rejection, claim 8 has been canceled without disclaimer or prejudice. Support for the claim amendments may be found in the originally filed Specification. Thus, claim 5 fully complies with 35 U.S.C. § 112 and is allowable.

35 U.S.C. § 102 REJECTIONS

Claims 1, 2, 6-11, 13, 16-17, 19-20 stand rejected under 35 U.S.C. § 102 (b) as being anticipated by Pusateri et al., U.S. Patent No. 6,008,995, issued December 28, 1999 (hereinafter "Pusateri"). Applicant respectfully traverses this rejection.

Regarding claims 1 and 13, the Pusateri reference discloses a card cage 10 having a half height PC card 100 or a full height PC card 130 (Figures 5 and 6, respectively). Card cage 10 also contains card guides 18, which mechanically support the PC cards and restrain sideways movement of the PC cards (Col. 3, lines 23-26). As such, "each card guide 18 is sized to receive an edge of one PC card" on each of first and second ends 14a and 14b in order to support the full

height PC card 130 in card cage 10 (col. 3, lines 25-32). However, Pusateri fails to teach, advise, or suggest an integrated modular avionics (IMA) cabinet having "a plurality of printed circuit board (PCB) modules" and "a chassis having a front, wherein said front of said chassis is configured with slots... and wherein said plurality of printed circuit board modules creates a seal with said chassis" as recited in claim 1 (and claim 13, which depends from claim 1). Thus, since Pusateri fails to disclose one or more of the claimed elements, amended claim 1 and claims 2, 6-11, 13, 16, 17, 19, and 20 (which variously depend from claim 1) are allowable over Pusateri.

Regarding claims 6-11, the Office contends that the Pusateri reference discloses a module with a first and second printed circuit board with a connector assembly attached by surface mounted leads to the circuit boards. The Office Action further contends that "the connector assembly includes a plurality of connectors". Generally, the Pusateri reference discloses a printed circuit board module with a connector. As shown in figures 5-7, Pusateri discloses only one printed circuit board 104 and a connector 102 attached to the printed circuit board. The card guide 18 is molded plastic formed into a groove to accommodate <u>one</u> printed circuit board. In addition, Pusateri discloses "at least one connector 102 is disposed along the first edge 106 of the PC card 104 and a mounting plate 110 is mounted to the PC card 104 at the second edge 108 of the PC card 104" (Col. 5, lines 6-9).

However, Pusateri fails to disclose "a first circuit board having a first end connected to said face plate and an opposite second end connected to said connector assembly", and "a second circuit board having a first end connected to said face plate and an opposite second end connected to said connector assembly, wherein said second circuit board is disposed adjacent to said first circuit board" as recited in claim 6. In addition, Pusateri fails to disclose a connector assembly having "a plurality of connectors for connecting to wire harnesses" as recited in claim 7. Furthermore, Pusateri fails to disclose a first circuit board and a second circuit board "connected to said connectors without using ribbon cables or flexprint interconnections" as recited in claim 9. Still further, Pusateri fails to disclose a first circuit board and a second circuit board "connected to said connectors with surface mounted leads" as recited in claim 10. Additionally, Pusateri fails to disclose a first circuit board and a second circuit board "connected to said connectors with 90 degree leads" as recited in claim 11. As such, Pusateri fails to disclose one or more of the claimed elements, so that claims 6-11 are allowable over Pusateri.

Regarding claims 16-17, Applicant respectfully disagrees with the Office's

characterization of Pusateri. Pusateri discloses an opening 80, which is disposed on front plate 66 of the mid-cage insert to hold the captive bolt of the mid-cage insert (Col. 4, lines 45-51). Pusateri does not teach opening 80 in connection with ventilation. Opening 80 is used to accommodate a bolt, in which case, opening 80 would be closed. In fact, opening 80 is not even located on any of the outside panels of the electronics cabinet and therefore, can not provide ventilation. As such, Pusateri fails to disclose a top panel and a bottom panel "configured with a plurality of ventilation holes for cooling said PCB modules" as recited in claim 16 (and claim 17, which variously depends from claim 16). In addition, Pusateri fails to disclose ventilation holes "sized to be resistant to electromagnetic interference (EMI) and to radio frequency interference (RFI)" as recited in claim 17. Thus, Pusateri fails to disclose one or more of the claimed elements, so that claims 16-17 are allowable over Pusateri.

In addition, although Pusateri teaches card guides 18 (Col. 3, lines 19-21), Pusateri fails to disclose a top panel and a bottom panel "configured with a plurality of guide rails for guiding said PCB modules into said slots in said chassis" as recited in claim 19 (and claim 20, which depends from claim 19). Additionally, as discussed above, not only does Pusateri fail to disclose a slot in the chassis, Pusateri fails to disclose that "each slot in said chassis has one guide rail mounted on said top panel and one guide rail mounted on said bottom panel, wherein said guide rails are centrally mounted with respect to each slot" as recited in claim 20. As such, Pusateri fails to disclose one or more of the claimed elements, so that claims 19 and 20 are allowable over Pusateri.

Accordingly, Applicant respectfully submits that each and every element of the claims are not disclosed by Pusateri, and therefore not anticipated by Pusateri. Therefore, Applicant respectfully requests the withdrawal of the rejection of claims 1, 2, 6-11, 13, 16-17, and 19-20 over Pusateri.

35 U.S.C. § 103 REJECTIONS

Applicant respectfully believes that the § 103 rejections contained within the Office Action are now moot, since they apply to claims that depend from allowable independent claims, and are therefore patentable a fortiori. Nevertheless, Applicant further distinguishes the references as follows:

Claims 14, 15, 18

The Examiner rejected claims 14, 15, and 18 under 35 U.S.C. § 103(a) as being unpatentable over Pusateri. Applicant respectfully traverses this rejection.

The Examiner alleges that Pusateri discloses all of the limitations of the claimed invention, except the interchangeability of the top and bottom panels. The Examiner argues that where a part of the cabinet may be relocated without modification to the operation of the cabinet, the relocation is considered to have been within the skill of art (In re Japikse, 86 USPQ 70 (1950)). However, Pusateri fails to disclose "said top panel and said bottom panel are interchangeable" as recited in claim 14, or "said first side panel and said second side panel are interchangeable" as recited in claim 15. In fact, Pusateri teaches away from using interchangeable panels, because it teaches accommodation of PC boards with different lengths (Col. 3, lines 9-11). As such, Pusateri discloses mounting bars for mid-cage inserts mounted on the side panels, inside the electronics cabinet (Col. 3, line 36). Thus, there cannot be any motivation or suggestion to include the missing claimed elements, so that claims 14 and 15 would not have been obvious over Pusateri.

In addition, the Examiner alleges that Pusateri discloses a cabinet including a hole, except the size of the hole, so that it would have been an obvious matter of a design choice to make the hole as small in diameter as possible to reduce the amount of space. The Examiner argues that a change in size is generally recognized as being within the level of ordinary skill in the art (In re Rose, 105 USPQ 237 (CCPA 1955)). However, as discussed above, the holes in the Pusateri reference (namely, opening 80) hold a bolt attaching the mid-cage insert to the front plate of the mid-cage insert. For this reason, holes for holding a bolt to attach the mid-cage insert to the front plate actually teach away from holes for ventilation, because inherently a hole for accommodating a bolt is for closing the hole with the bolt. Accordingly, there cannot be any motivation or suggestion to modify the holes in Pusateri to function as ventilation holes. Thus, Pusateri fails to teach, advise, or suggest ventilation holes that "are less than about 0.09 inches in diameter" as recited in claim 18. Therefore, it would not have been obvious to one of ordinary skill in the art at the time of the invention to modify the Pusateri reference to include the missing claimed elements, so that claims 14, 15, and 18 are patentable over Pusateri.

Claims 3,4,5

The Examiner rejected claims 3-5 under 35 U.S.C. §103(a) as being obvious over Pusateri in view of Craker, U.S. Patent No. 4,716,497, issued December 29,1987 (hereinafter "Craker"). Applicant respectfully traverses this rejection.

The Examiner states that Pusateri discloses an electronics cabinet with first and second screws, except Pusateri does not teach the use of jack screws for the first and second screws of the PCB module. Further, the Examiner argues that Craker teaches the use of jack screws to fasten the PCB module to the electronics cabinet and therefore, it would have been obvious to combine the jack screws of Craker with the first and second screws of Pusateri.

Although Craker teaches a mounting bolt 60 to attach front face plate 22 to a cabinet, it does not teach that the mounting bolt is a jack screw. While the bolt 60 holds the face plate 22 to the electronics cabinet, it also functions as an electrical connection providing power to digital displays on the face plate. As shown in figure 4, the mounting bolt passes through a compression spring 76 and ground strap 68 to provide an "electrical connection" "to both the printed circuit board and the frame" (Col. 4, lines 56-59). Craker also teaches that the mounting bolt "is fastened to the printed circuit board enclosure to hold the module in the enclosure" (Col. 4, lines 55, 56). In other words, the mounting bolt is pulling the module to the chassis and providing an electrical connection. In contrast, a "jack screw" is a mechanical device, where a screw applies a certain amount of force to lift or push a load. Accordingly, Craker does not teach that the mounting bolt is a jack screw or that any amount of force is applied by the screw to clutch or hold the module to the chassis. As such, Pusateri in view of Craker fail to teach, advise, or suggest a first screw "configured as a jack screw" as recited in claim 3, first and second screws "configured to clutch when said screws are tightened to apply a predetermined amount of force between said face plate of the PCB module and said chassis" as recited in claim 4, or where a "predetermined amount of force applies a load of about 70 pounds per screw as recited in claim 5. Therefore, claims 3, 4, and 5 would not have been obvious to a person of ordinary skill in the art, so that claims 3, 4, and 5 are patentable over Pusateri in view of Craker.

Claim 12

The Examiner rejected claim 12 under 35 U.S.C. §103(a) as being obvious over Pusteri in view of McKenzie, U.S. Patent No. 4,002,386, issued January 11,1977 (hereinafter "McKenzie"). Applicant respectfully traverses this rejection.

The Examiner states that Pusateri discloses and satisfies all of the claimed invention, except for the flexible handle mounted on the face plate of the module. Further, the Examiner argues that McKenzie teaches a flexible handle and therefore, it would have been obvious to combine the flexible handle of McKenzie with the electronics cabinet of Pusateri.

The McKenzie reference discloses a handle, which locks in place to prevent it from pinching fingers against the printed circuit boards since there is no face plate covering the PCB. As part of the locking mechanism, a plurality of pulling pins are disclosed that interact with slots in the handle to keep it in a locked position. However, Pusateri in view of McKenzie fail to teach, advise, or suggest a face plate having "a slot formed therein", "a flexible handle member having substantially the same dimensions as said slot", where the flexible handle member is "configured to move between a retracted position and a use position", and where the flexible handle member lies within the "slot in said retracted position and said flexible handle member extends out from said slot in said use position" as recited in claim 12. Furthermore, Pusateri in view of McKenzie fail to teach, advise, or suggest a retainer member configured to attach the first end of the flexible handle member to the first end of the slot such that the flexible handle member is configured to move between a retracted position and a use position, where the first end of the flexible handle member does not move when the flexible handle member moves between the retracted position and the use position as recited in new claim 21.

The Office Action cites McKenzie Figures 2 and 3 alleging a use position and a retracted position for a flexible handle. However, upon careful examination of the cited figures and the accompanying text at McKenzie, col. 2, lines 39-47, it is apparent that the handle is not slideably attached, but rather is attached to pins mounted in the printed circuit board. Slots in the handle move the handle over a pin to a keyhole 50/51 in the slot, which then locks the handle in position. As such, McKenzie teaches a handle arrangement that requires pins to be mounted directly on to the printed circuit board and handle ends, which lock the handle in position. Indeed, the McKenzie reference teaches away from the claimed invention in that the handle in McKenzie is made to lock into position. In addition, modifying the handle in McKenzie to include the missing claimed elements would render McKenzie improper for its intended purpose, namely to lock the handle in position. Consequently, even a combination of Pusateri and McKenzie fails to teach, advise, or suggest the claimed invention as recited in claims 12 and 21. Furthermore, it would not have been obvious to modify McKenzie to include the missing

claimed elements, so that claim 12 (and as far as is applicable, claim 21) is/are patentable over Pusateri in view of McKenzie.

CONCLUSION

The Applicant respectfully submits that the present application is in condition for allowance because all claims patentably distinguish the prior art of record. Reconsideration of the application is thus requested. Applicant invites the Examiner to telephone the undersigned if he or she has any questions whatsoever regarding this Response or the present application in general.

Dated this 18th day of Sept., 2000.

Respectfully submitted,

By: S-Shahpar

Shahpar Shahpar
Reg. No. 45,875

SNELL & WILMER L.L.P.
400 E. Van Buren
One Arizona Center
Phoenix, Arizona 85004-2202
Phone: 602-382-6306
Fax: 602-382-6070